

REMARKS

Claims 1-19, as amended, are presented for examination.

Reconsideration is respectfully requested. New claims 15 to 19 are added to more completely claim the invention. Claim 15 was added in the parent case and was allowed.

In the present application, claim 1 stands rejected under 35 USC 102. Claim 14 stands rejected under 35 USC 112 for incorrect dependency. Claims 2-10, 13, and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims.

Claim 14 has been amended to correct the dependency. Applicants will rewrite claims 2-10, 13, and 15 later, if claim 1 and new claims 16-19 are not allowable. However, Applicants believe that amended claim 1 is allowable, as described below.

The present invention, as claimed in claim 1, is a method including the step of disaggregating asphaltenes in petroleum oils and mixtures thereof by heating so that the aggregates remain soluble. This aspect of the invention includes three limitations: (1) disaggregation of asphaltenes (2) mild heating of the entire petroleum oil feedstream to disaggregate the asphaltenes and (3) the disaggregated asphaltenes remain soluble in the petroleum oils.

The Examiner has alleged that claim 1 is anticipated by Sung et al., U.S. 5,969,237 because Sung discloses heating a drop of oil while using the ASTM D 2781 test method. The Examiner believes that the use of the test by Sung inherently discloses that the heating of petroleum feedstreams will disaggregate asphaltenes in the

feedstream. However, that is an extension of "inherency" beyond any reasonable bounds.

Sung discloses several compositions of matter that stabilize asphaltenes or prevent asphaltenes from aggregating. He uses the ASTM D 2781 test to evaluate his chemical compositions. A copy of the ASTM test method is attached. The test requires that one drop of oil be heated to 65°C (Procedure A) or 20°C (Procedure B). The differences in the procedures is described in the ASTM test in paragraph 1. Scope. The heating of the sample in either procedure is done to melt wax (see also ASTM test, paragraph 11. Interpretation of Results). The heating of one drop is not done for disaggregating.

In summary, Sung et al. discloses compounds that will stabilize asphaltenes in bituminous liquids, that is, keep the asphaltenes in solution. In order to test his stabilizing compounds, he takes a drop of the mixture and places the drop in filter paper. The filter paper and drop is heated for testing using the ASTM D 2781 test method. Therefore,

- (1) Sung does not disaggregate the asphaltenes by heating. Sung disaggregates by chemical compound.
- (2) Sung does not heat the oil. Sung heats one drop for testing. In the present invention, the entire feedstream is heated.
- (3) Sung does not keep the asphaltenes soluble in the oil by heating. Sung keeps the asphaltenes soluble by a chemical dispersant.

"Inherency" as used by the Examiner is not supported by the case law. The MPEP on page 2100-51 has said

"To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.'" *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)

In the present case, one skilled in the art would not recognize from the ASTM test that heating one drop of test liquid would result in the disaggregation of asphaltenes in a petroleum feedstream.

Applicants believe that the claims now present in this application to be patentable and that this application is in condition for allowance, and such favorable action is respectfully requested. If any questions or issues remain, the resolution of which the Examiner feels would be advanced by a conference, he is invited to contact applicants' attorney at the telephone number noted below.

Respectfully submitted,



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☐ Pursuant to 37 CFR 1.34(a)

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